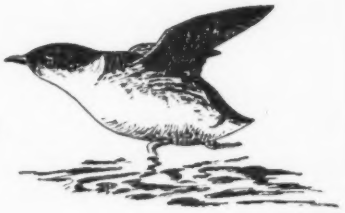
The MURRELET



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Contents

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A SURVEY OF WATERFOWL IN EASTERN WASHINGTON IN 1947

CHARLES F. YOCOM

More Americans than ever before went hunting in 1947. The Fish and Wildlife Service has stated that a total of 12,066,763 persons bought hunting licenses and paid over 28 million dollars for this privilege, not counting the millions they spent on guns, ammunition, clothing, and other supplies. The sale of federal migratory-bird hunting stamps ("duck stamps") also broke all previous records; 2,016,819 stamps were purchased in 1947 whereas 1,725,505 were sold in 1946.

Because the total duck population is decreasing and the hunters increasing, we must take steps to make conditions more favorable for waterfowl. To do this we must know more about conditions for, and the status of, waterfowl throughout the flyways.

According to the January waterfowl inventory of the Fish and Wildlife Service for Region 1 (California, Idaho, Montana, Nevada, Oregon, and Washington) there were 4,328,255 birds in 1946 and 3,550,782 in 1947. Decreased water supply in the scab rock country in Washington in 1947 reduced the breeding birds, at least in some areas. (See Table 2.) Conditions would have to be very favorable in Canada and Alaska to prevent a further drop in inventory figures.

During the summer of 1947 I was employed by the State of Washington Department of Game to initiate a survey to determine the status of breeding waterfowl in the scab lands of eastern Washington. The following report summarizes the information obtained.

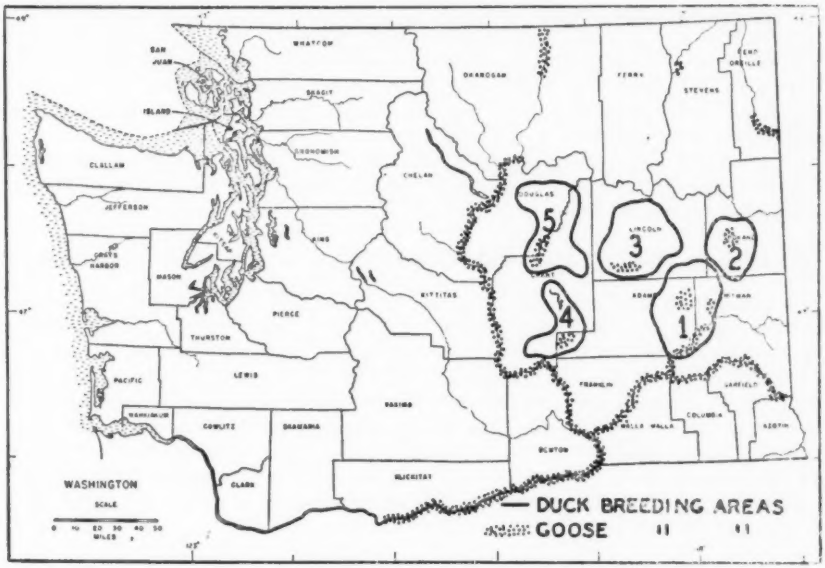
INTRODUCTION

Objectives of the survey were to obtain information on the species of ducks and geese that utilize this region for nesting, to determine their relative abundance, to gather as much information as possible on broods, to consider areas as to their merits as samples for future surveys, and to make a survey of waterfowl parasites. The latter survey was carried out by Dr. C. W. McNeil, parasitologist of the Department of Zoology of the State College of Washington, who was supported by a grant from the State College Research fund.

Dr. McNeil and I worked together throughout most of the summer and traveled over 2500 miles in conducting our studies. Over sixty animals were collected, which were skinned and examined for parasites. In the case of waterfowl, all stomachs were preserved for future food-habit studies. All skins were turned over to Dr. Geo. E. Hudson, Curator of the Charles R. Conner Museum at the State College of Washington. In addition, many aquatic plants were collected throughout the region covered, and are now in the herbarium at the State College of Washington.

WATERFOWL BREEDING AREAS IN EASTERN WASHINGTON

The eastern part of Washington can be divided roughly into five main regions in so far as waterfowl breeding areas are concerned. All of the regions are confined to channeled scab areas which have many lakes and potholes of various sizes and depths. All but one region (Daubenmire, 1942) are situated in a prairie zone, (*Artemesia-Agropyron* or *Agropyron-Poa*); the exception is in the yellowpine belt. I would place these regions according to their duck production as follows:



No. 1: Channeled scab country extending south of Ewan including the western edge of Whitman County, the northeast portion of Adams County from Benge north to Ritzville, a small portion of southwestern Spokane County and part of Lincoln County south and east of Sprague. This area is drained primarily by Cow Creek and Rock Creek.

No. 2: Spokane-Cheney region. This section includes the Turnbull National Wildlife Refuge and the many potholes and lakes in the yellow pine belt of Spokane County.

No. 3: Moses Lake-Drumheller region. Lower Crab Creek runs from Moses Lake through the Potholes country into Adams County. Moses Lake, Potholes area, Crab Creek, and the cluster of lakes in northwestern Adams County make up this region.

No. 4: Lake Creek-Crab Creek region. This region includes the scab country of central Lincoln County (which has many lakes and potholes, including Sylvan and Tule lakes) and extends west to Wilson Creek.

No. 5: Moses Coulee-Grand Coulee region. Extending south of Dry Falls is a series of alkaline lakes utilized considerably by waterfowl. Possibly this is a more important region than I have indicated by placing it last. However, observations in this area were far too limited to evaluate properly its value in this study. The potholes in the Delrio-Moses Coulee area are to be considered as part of this region.

In addition to the above-mentioned regions there are many smaller areas which produce waterfowl. As far as Canada geese are concerned, the Snake River, Columbia River, and the Palouse River areas are undoubtedly the main nesting areas in the state. The Colville Valley, Yakima Valley, the Pend Oreille Valley, and others produce a considerable number of ducks locally. Furthermore, many mallards are raised annually along the streams in Whitman County.

SPECIES OF WATERFOWL OBSERVED NESTING IN EASTERN WASHINGTON

Waterfowl that normally nest in eastern Washington are as follows: Canada Goose, Mallard, Redhead, Pintail, Baldpate, Gadwall, Blue-winged Teal, Cinnamon Teal, Green-winged Teal, Shoveller, Ruddy duck, Wood duck, Barrow's Golden-eye, and American Merganser.

In addition to this group one can add the following birds which breed here in limited numbers: Canvasback, Lesser Scaup, Ring-necked duck, Hooded Merganser, and Harlequin duck.

RELATIVE NUMBER OF EACH SPECIES OF DUCKS SEEN IN THE REGIONS SURVEYED

In covering such an extensive area in a short time, it was impossible to obtain accurate figures on the exact number of ducks in each region. Consequently representative areas were counted. To arrive at a comprehensive picture all of the ducks seen at each area were tabulated. These figures, which include all of the young and adults seen, do not necessarily give a picture of the ducks produced on each lake or stream. Nor do they give a total of the birds present, because excessive vegetation often prevents such counts. Moreover, many broods had undoubtedly flown from their home ponds, sloughs, and lakes after the middle of July. These figures, however, do give one a conception of the relative numbers of each species present.

Table 1 summarizes the total numbers of waterfowl observed throughout the summer (14,838). Furthermore, the relative abundance of each species in all the regions is expressed on a percentage basis. More mallards were seen in all cases except in the Crab Creek-Lake Creek region, and in this exception only five more pintails than mallards were recorded. According to our data for the summer of 1947 the species of ducks can be listed as follows in relationship to their abundance throughout eastern Washington. Because of the difficulty of distinguishing the blue-winged and cinnamon teals, they are treated together.

Mallard	51.67
Redhead	8.67
Baldpate	6.27
Pintail	6.23
Gadwall	6.08
Blue-winged or Cinnamon Teal	5.35
Green-winged Teal	4.36
Ruddy duck	4.16
Shoveller	3.54
Wood duck	2.39
Lesser Scaup	0.46
Canvasback	0.37
American Merganser	0.22
Bufflehead	0.03
Golden-eye	0.09
Ring-necked duck	0.09
Hooded Merganser	0.01

TABLE 1

TOTAL NUMBER OF WATERFOWL SEEN

SPECIES	REGION No. 1 (Total Ducks Identified—1905)		REGION No. 2 (Total Ducks Identified—3194)		REGION No. 3 (Total Ducks Identified—136)		REGION No. 4 (Total Ducks Identified—740)		SCATTERED AREAS (Total Ducks Identified—751)		*Grand Total*	*% of Grand Total Identified*
	Total Seen	*% of Total Identified*	*Total Seen*	*% of Total Identified*	*Total Seen*	*% of Total Identified*	*Total Seen*	*% of Total Identified*	*Total Seen*	*% of Total Identified*		
Mallard	869	45.62	1901	59.54	64	47.06	213	28.78	428	56.99	3475	51.67
Pintail	159	8.34	0	....	31	22.79	218	29.46	11	1.46	419	6.23
Redhead	193	10.13	380	11.90	7	5.15	3	0.41	0	....	583	8.67
Baldpate	116	6.08	265	8.30	6	4.41	34	4.60	1	0.13	422	6.27
Gadwall	113	5.93	204	6.39	19	13.97	73	9.86	0	....	409	6.08
Ruddy Duck	131	6.88	53	1.66	4	2.94	50	6.76	42	5.59	280	4.16
Shoveller	70	3.67	118	3.70	2	1.47	35	4.73	13	1.73	238	3.54
Green-winged Teal	95	4.99	129	4.04	0	....	40	5.41	29	3.86	293	4.36
Blue-winged and Cinnamon Teal	140	7.35	115	3.60	3	2.21	60	8.11	42	5.59	360	5.35
Scaup	6	0.31	25	0.78	0	....	0	....	0	....	31	0.46
Canvasback	11	0.58	2	0.06	0	....	12	1.62	0	....	25	0.37
Wood Duck	0	....	1	0.03	0	....	2+	0.27	158	21.04	161	2.39
Buffle-head	2	0.10	0	....	0	....	0	....	0	....	2	0.03
Ring-necked Duck	0	....	0	....	0	....	0	....	6	0.8	6	0.09
American Merganser	0	....	0	....	0	....	0	....	15	2.0	15	0.22
Hooded Merganser	0	....	1	0.03	0	....	0	....	0	....	1	0.01
Golden-eye	0	....	0	....	0	....	0	....	6	0.8	6	0.09
Canada Goose	97	....	35	....	8	....	0	....	200±	....	340±	....
Unidentified Ducks	231	....	2000	....	0	....	0	....	413	....	2644	....
Coots	274	....	1900	....	0	....	250	....	60	....	2484	....

GRAND TOTAL OF IDENTIFIED DUCKS..... 6,726
GRAND TOTAL OF UNIDENTIFIED DUCKS..... 2,644
GRAND TOTAL OF DUCKS SEEN..... 9,370
GRAND TOTAL OF WATERFOWL (including Coots).....14,838

TABLE 2

DUCK BROOD SIZES BY AGE CLASSES

SPECIES	AREA	YEAR	⅛ grown or less		⅛ to ⅔ grown		⅔ to full grown	
			Ave. Size	*No. Counts*	*Ave. Size*	*No. Counts*	*Ave. Size*	*No. Counts*
Mallard	*Harder Area	1946	6.6	41	5.3	40	5.4	21
	Harder Area	1947	4.8	19	5.4	20	4.0	6
	Eastern Wash.	1947	6.08	13	6.5	4	5.43	60
	†Turnbull Slough	1947	6.7	11	6.6	5	5.9	38
Gadwall	*Harder Area	1946	7.4	17	8.5	11	8.5	2
	Harder Area	1947	6.0	2	6.	1	8.	1
	Eastern Wash.	1947	5.7	12	...	..	5.5	6
	Turnbull Slough	1947	...	..	6.6	3	7.5	2
Baldpate	Harder Area	1946	10.	1	6.3	4	3.	1
	Harder Area	1947	8.	1	6.	1	7.	1
	Eastern Wash.	1947	6.	11	5.5	4	7.	1
	Turnbull Slough	1947	6.2	5	6.5	2	5.5	2
Pintail	Harder Area	1946	2.8	6	3.8	10	4.3	4
	Harder Area	1947	3.	1	1.	1	6.	2
	Eastern Wash.	1947	...	..	8.	1	6.14	7
	Turnbull Slough	1947	...	..	...	..	...	..
Green-winged Teal	Harder Area	1946	4.3	3	8.	1	4.	2
	Harder Area	1947	...	..	...	..	...	..
	Eastern Wash.	1947	5.3	3	8.	1	4.	7
	Turnbull Slough	1947	7.0	6	6.	2	6.6	6
Blue-winged and Cinnamon Teals	Harder Area	1946	7.	23	5.8	21	7.4	12
	Harder Area	1947	7.	2	4.	1	6.7	3
	Eastern Wash.	1947	8.	4	4.	1	6.3	4
	Turnbull Slough	1947	9.3	3	...	..	6.	2
Shoveller	Harder Area	1946	7.6	13	5.7	13	6.3	4
	Harder Area	1947	4.	1	7.5	2	4.3	3
	Eastern Wash.	1947	8.	3	3.	1	4.6	5
	Turnbull Slough	1947	7.5	2	6.5	2	5.0	4
Redhead	Harder Area	1946	6.3	32	5.7	33	4.9	11
	Harder Area	1947	5.1	16	4.9	11	5.0	3
	Eastern Wash.	1947	4.1	26	6.6	9	5.3	15
	Turnbull Area	1947	8.	5	6.5	7	6.	15
Lesser Scaup	Harder Area	1946	12.	2	7.5	2	...	..
	Harder Area	1947	...	..	...	..	...	..
	Eastern Wash.	1947	...	..	...	..	8.	1
	Turnbull Area	1947	7.5	2	3.	2	...	..
Ruddy Duck	Harder Area	1946	5.7	19	6.1	9	...	..
	Harder Area	1947	6.5	8	4.4	7	...	..
	Eastern Wash.	1947	5.5	15	4.4	3	3.7	3
	Turnbull Slough	1947	5.1	6	3.7	7	3.	2
Canvasback	Eastern Wash.	1947	8.	1	2.	1	...	..
	Turnbull Slough	1947	...	..	...	..	4.	1
ALL SPECIES		1946	6.5	156	5.8	144	5.7	57
		1947	5.7	178	5.19	99	5.54	200

*Data from Jeffrey (1947).
†Data from Salter (1947, personal communication).

Pintails, in general, appear to avoid the timbered areas as is indicated by no sight records in Region 2. Bob Salter, a student working during the summer at the Turnbull Federal Wildlife Refuge, did not see a pintail brood on the Refuge. This species does breed, however, on the mud lakes six miles southeast of Colville. Generally speaking, this region is considered as timbered. Land near these lakes, however, is farmed or in open pasture.

Wood ducks are reported to be on the increase throughout Pend Oreille and Stevens counties in recent years. Farmers along the Colville and Pend Oreille rivers, as well as at Cusick Flats, have noted many broods. Don Earnest reported that a large flock of wood ducks decoyed into his blind in a grain field last fall, and we saw over 150 wood ducks at Calispell Lake, August 14, 1947, which substantiates this general opinion.

Our survey began too late to obtain the most information on brood studies. Such studies should begin by the middle of June (preferably by the first of June) and continue through July. Young mallards were observed flying by July 1, and others may have reached that stage earlier.

All broods were classified according to age class groups. I have incorporated my brood data with that of Jeffrey (1947) and Salter (personal communication, 1947). Table 2 summarizes all of these data.

The species composition of broods determined by us throughout the area surveyed are included in Table 3, with data collected by Jeffrey (1947) on the Harder area of northeastern Adams County, and by Salter (1947) on the Turnbull Federal Wildlife Refuge in central Spokane County.

These studies indicate that the mallard is the most common breeder throughout eastern Washington, followed by the Redhead and Ruddy duck.

TABLE 3

SPECIES COMPOSITION OF BROOD POPULATION

SPECIES	†TURNBULL FEDERAL WILDLIFE REFUGE		*HARDER AREA				EASTERN WASHINGTON	
	1947		*1946*		*1947*		*1947*	
	Number Broods	*Percent of Total*	*Number Broods*	*Percent of Total*	*Number Broods*	*Percent of Total*	*Number Broods*	*Percent of Total*
Mallard	54	38.0	57	28.5	38	37.5	77	34.4
Gadwall	5	3.5	18	9.0	3	3.0	18	8.0
Baldpate	9	6.3	1	0.5	2	2.0	16	7.1
Pintail	0	...	19	9.5	5	5.0	8	3.6
Green-winged Teal	14	9.8	4	2.0	0	0.0	11	4.9
Blue-winged and Cinnamon Teals	5	3.5	31	15.5	6	6.0	9	4.0
Shoveller	8	5.6	14	7.0	6	6.0	9	4.0
Redhead	27	19.0	33	16.5	27	26.5	50	22.3
Lesser Scaup	4	2.8	1	0.5	0	...	1	0.5
Ruddy Duck	15	10.6	21	10.5	15	14.5	21	9.4
Canvasback	1	0.7	0	...	0	...	2	0.9
Ring-necked Duck	0	...	0	...	0	...	2	0.9
TOTALS	142		199		102		224	

†Salter (1947).
*Jeffrey (1947).

PARASITES

Dr. C. W. McNeil (1948) has made a preliminary report on internal parasites in waterfowl of eastern Washington. A summary of his findings shows that 94.7 percent of all mallards examined in 1946 and 1947 were parasitized. Of all waterfowl examined (62 birds) in 1946 and 1947, 80.63 percent were infected with *Trematoda, Cestoda, Nematoda,* or *Acanthocephala.* Tapeworms (*Cestoda*) were present in 62.9 percent of all the waterfowl examined.

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State College of Washington
Pullman

Black Rat and Roof Rat Taken in the Central Oregon Coast Strip.—Apparently the only Oregon records for the black rat (*Rattus rattus rattus*) and the roof rat (*Rattus rattus alexandrinus*) are those in Bailey's "Mammals and Life Zones of Oregon" (*North American Fauna,* 55: 168-69, 1936). Bailey has only one record for the black rat: ". . . a half-grown young taken in a trap set under old logs in the Sitka spruce forest near the shore at Empire." Empire is in Coos County. For the roof rat Bailey says: ". . . there are two specimens in the Jewett collection from Netarts Bay and one in the Gabrielson collection taken at Portland."

From July 23 to August 31, 1949, six black rats were taken about seven miles due south of Florence, Lane County, four in dank undergrowth beneath lodgepole pines and two near standing water in a mixture of Sitka spruce and alder. Nine others were taken on the northwest shore of Tahkenitch Lake, Douglas County, seven in marsh vegetation and two in the willow border of the marsh.

During the same period, five roof rats were taken, all in the above spruce-alder situation.—RICHARD A. PIMENTEL, *Department of Zoology, Oregon State College, Corvallis.*

NOTES ON REPRODUCTION OF THE PENINSULA BEAR

ARTHUR SVIHLA

Since very little has been published on the breeding habits and young of the big brown bears, the following information concerning the Peninsula bear (*Ursus gyas*) is thought worthy of record.

Through the courtesy of Mr. Edward Johnson, Superintendent of the Woodland Park Zoological Garden, Seattle, Washington, a newborn female of this species was presented to the Zoology Department of the University of Washington. It was born February 6, 1949, weighed 629 grams or about 22 ounces, and measured 390 mm. total length, 20 mm. tail length, 44 mm. hind foot, and 13 mm. ear length. Its eyes were closed and a long remnant of the umbilical cord was still attached. Three pairs of mammary glands were visible, two of which were pectoral and one inguinal. On the left side a rudimentary abdominal gland was also present. Apparently only one young was born in this litter although in previous years, as indicated by her record, the mother had given birth to two and three cubs at a time. In this species of brown bear, the females are lighter in weight than the males. This mother weighed 392 pounds, hence her newborn young which weighed about 22 ounces was approximately 1/280 of her weight. In the case of the American black bear, Seton (1929) stated that the newborn cub weighed 9 to 12 ounces or about 1/200 to 1/250 of the weight of the mother. It is interesting to note that although this newborn cub of the Peninsula bear weighed more than that of the American black bear, the ratio of its weight to that of its mother was greater.

The parents of this cub ("Denali" and "Oduna") were received as gifts in 1928 as young of the year, so that at the time of the birth of the cub mentioned above, the parents were 21 years of age. In this connection it may be pointed out that not only are these parents approaching the longevity record of 21 years and 5 months for *Ursus gyas* in the U. S. Zoological Garden, Washington, D.C., but that they are still fertile.

Seton also stated that in the big brown bear, mating apparently takes place during July and the young "arrive usually during January or sometimes in early February . . . weigh about 1½ pounds, that is about the size of a grey squirrel and number from one to four . . . they are, of course, blind, naked and helpless." In general the characteristics of this cub are in agreement with Seton's description of the young except that this cub was not naked but instead abundantly covered all over with stiff brown hairs about 5 mm. long. A photograph published in the April, 1938, issue of *Natural History* shows a mother brown bear in the Whipsnade Zoological Garden near London carrying a young cub. The text accompanying this photograph stated that the cub, which was three days old, was hairless. Under the circumstances it seems doubtful that the young was examined at close enough range to observe hair.

The coloration of this cub was unusual in that instead of being uniformly brown there were three large white areas on the body. One was a rather wide, irregular streak on the back of the neck which continued around to a large, median, triangular patch on the chest. The others were two large white patches under the armpits. Using Allen's (1914) color pattern development concept, these white areas around the neck indicate that evidently the nuchal centers were not functioning. Had this cub grown to maturity it would have had a white ring around the neck.

The following breeding record of these bears has been kindly furnished by Mr. Johnson:

1933, May 18—bears bred
1934, no record
1935, March 3—2 cubs born dead
1936, Feb. 12—2 cubs born, died Feb. 18 and Feb. 19
1936, June 14—bears bred
1937, Feb. 27—2 cubs born (258 days "gestation")
1938, May 16—bears bred
1939, no record
1940, no record
1941, May 27—bears bred
1942, May 27—bears bred
1943, June 24—bears bred
1944, Jan. 26—3 cubs born (216 days "gestation")
1945, June 4—bears bred
1946, no record
1947, no record
1948, June 16—bears bred
1949, Feb. 6—1 cub born (245 days "gestation")

The so-called "gestation" periods varied from 216 days in 1944 and 245 days in 1949 to 258 days in 1937. However, from recent evidence the time elapsing from the time of mating to the birth of the young cannot be construed as the actual gestation period. Hammett (1935) points out that bears are similar to certain other mammals in that after fertilization of the egg, a quiescent period follows in which no development of the embryo takes place for some months. This may account for the small size and apparent lack of development of young bears at birth in comparison to the relatively large size of the mother.

From these records made in Seattle, mating took place in May and June and the young were born in January, February, and March. The first mating took place when the bears were five years of age although the first cubs were born when the mother was seven. Seton stated that the big brown bears apparently mature at about seven years of age.

It is interesting to note that although cubs were born in March, 1935, and in February, 1936 (the young in both of these litters died shortly after birth), mating took place in June in both years and young were born the year following. Hence, it seems that if any early misfortune happens to the young of the year, the female may breed later at the normal time. Although several litters were born to this female, none of the young ever grew to maturity. This may have been due to the unnatural conditions of captivity. Therefore it is not known whether the females will mate while rearing a family.

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Seattle, Washington

AN IMPROVED LIVE TRAP FOR POCKET GOPHERS

LLOYD G. INGLES

During a four-year study on the ecology of the mountain pocket gopher (*Thomomys monticola*) various kinds of live traps were used. Because one of these was much more successful than the others, special efforts were made to increase its efficiency. The basic principle of this trap is described by Scheffer (1934). The present paper describes and figures the modifications that greatly increase its effectiveness.

The trap is made of one-fourth inch mesh hardware cloth rolled into a cylinder eleven inches long by two and seven-eights inches in diameter. (See drawings.) In shaping the cylinder the hardware cloth is over-lapped two inches; this over-lap becomes the top of the trap, and when set in most soils, allows enough earth to filter through to cover the wire on the floor. This was found to be the best length and diameter of trap for this species of pocket gopher. When greater or smaller dimensions of the cylinder are used, they nearly always result in the animal plugging the trap with earth before the trigger is reached, or the animal being killed by the closing door, or by simply springing the trap without getting caught. In order to reduce kills a wire stop (No. 1) was added which prevents the door from closing by one-half inch.

The spring door is fastened directly to the top of the hardware cloth cylinder instead of using the wooden mouse trap base (suggested by Scheffer) which softens and allows the spring to come loose under damp conditions.

The best innovation of all, however, is the use on the end of the cylinder of a No. 2 can with three triangular holes in its bottom. When setting the trap, about eighteen inches of the gopher's burrow is opened and the trap is placed in this trench. It is then covered entirely with earth, including two of the lower holes in the end of the can. An animal will then come to the end of the trap to plug *this one small hole* but would invariably not do so if no light or if too much light entered the outside end. By using the animal's instinct to plug its open burrow, baits are *unnecessary*. The trap as here described, when properly set, is as effective as the well-known Macabee trap which kills the animal. Individual pocket gophers have repeated in this trap as many as 15 times in a month.

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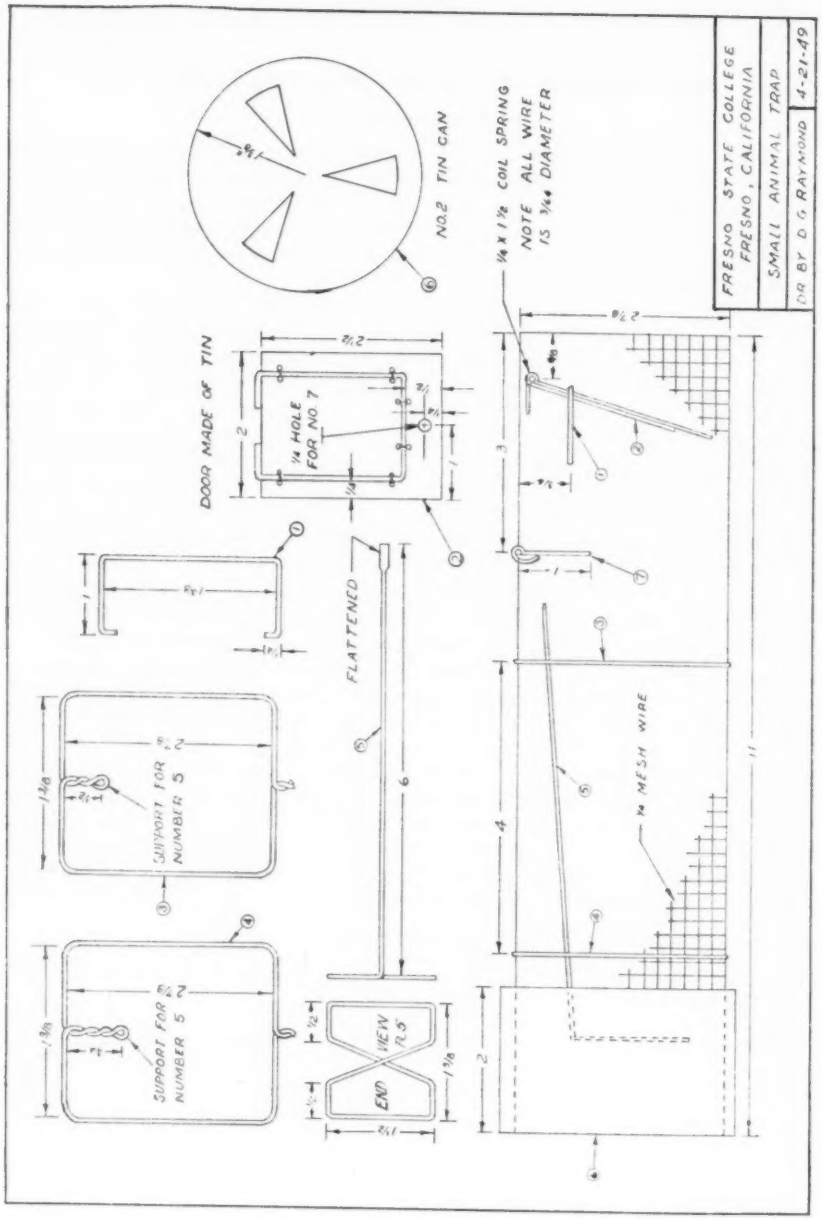
FRESNO STATE COLLEGE
FRESNO, CALIFORNIA
SMALL ANIMAL TRAP
DR BY D G RAYMOND
4-21-49
NO.2 TIN CAN
¼ X 1½ COIL SPRING
NOTE ALL WIRE
IS 3/64 DIAMETER
DOOR MADE OF TIN
¼ HOLE
FOR NO 7
FLATTENED
SUPPORT FOR
NUMBER 5
SUPPORT FOR
NUMBER 5
END
VIEW
¼ MESH WIRE

GENERAL NOTES

Nesting of the Glaucous-winged Gull at Tacoma, Washington.—Last winter, in the course of a casual conversation, William Fisher, a student in one of my classes, remarked that while he was employed by a construction company on the Tacoma tide-flats during the summer of 1948, he had witnessed the nesting of the Glaucous-winged Gull (*Larus glaucescens*).

He estimated that there were at least ten nests and while he was working and during lunch hour he could see the birds on the nests, observe their behavior when disturbed, and note when the chicks were hatched.

There have been scattered isolated verbal accounts of this gull nesting near Tacoma, an occasional note in the local newspaper, and a few telephone calls regarding sea gull nests along the Puyallup River, but this, in my experience, was the most authentic information concerning actual colony nesting of this bird here.

As a consequence of Fisher's observations of last season he and I visited the area this summer. We found the colony on June 29 but were disappointed to find but five nests. Three of these were with eggs (three to each nest) while two nests were of this year but with the young hatched. One of the chicks from one of these nests we found and examined carefully; it appeared to be about ten days old. When we approached the chick and placed it in favorable light for a photograph the parent bird became very angry and repeatedly dove at our heads and, due to the excitement of the occasion, would fly to the roof of a nearby building, rest a few moments, regurgitate its food, and repeat the entire performance.

The colony is located on the grounds of the St. Regis Paper Company. The plant occupies a peninsula about half a mile long and several hundred yards wide. Three of the nests (those with eggs) were found on the west side of the point on a raised area originally built up as a dike. The dominant vegetation consisted of a few small alder trees, sparse grass, and a thick covering of sweet clover, both white and yellow (*Meliotus alba* and *M. officionalis*). The nests with young we found about 200 yards away from the first three on the other side of the peninsula. Both of these nests were located on a rock jetty built out into the water to afford a harbor for logs.

The nests were very sparse structures, built of grass, leaves, twigs, and coarse material gathered from the adjacent region. Two nests, however, contained a considerable number of dried fronds of *Equisetum* which the birds must have brought in from some distance away as we could find none growing on the entire point. The eggs were about a third incubated.

It is to be regretted that the colony is probably facing destruction of its site, as the St. Regis Company is contemplating expansion of its plant to the bare ground now occupied by the birds.—Gordon D. Alcorn, *College of Puget Sound, Tacoma, Washington.*

Glaucous-winged Gull Nesting at Seattle, Washington.—A breeding record that seems worth recording is that of a pair of glaucous-winged gulls at Seattle, Washington. The event was first reported in the Seattle *Times* of August 21, 1949, by Mr. Forest Harrison, who photographed the nest and two young. On August 26 I examined the site from a skiff.

The nest was placed on top of one of a cluster of several pilings in Salmon Bay, a salt water arm of Puget Sound at the entrance to the Lake Washington Ship Canal. The pilings are about 75 yards from shore, and protrude about six feet at high tide. The nest was made of grass. When I examined them the young were well-feathered, but some natal down was visible on the nape. Both parents were present, and dove about my head when I neared the nest. The constant passing of water traffic, however, did not prevent the birds from choosing this site. One nearby resident stated she had seen the mated pair in May.

Records of this species breeding on Puget Sound are rare, and I know of no other instances of the glaucous-wing nesting on pilings.—WILLIAM GOODGE, *Washington State Museum, University of Washington, Seattle.*

Nesting of the Long-billed Marsh Wren in Western Oregon.—Published data on the nesting of the long-billed marsh wren in western Oregon are rare. The tule wren (*Telmatodytes palustris paludicola*) is the race recorded from western Oregon. Gabrielson and Jewett (*Birds of Oregon*, 1940: 458) recorded only one set of five eggs collected, that being on the coast at Devils Lake, Lincoln County, on April 29, 1933. A. C. Bent (1948: U.S. Nat. Mus. Bul. No. 195: 261-64) gives no egg dates for Oregon.

In over eight years' field work in western Oregon this wren has been recorded every month, but was most often seen from early February through May. Their abundance through the summer months at any one location seemed to depend directly on the presence of water.

In the Willamette Valley, nest building began in early April, my earliest nest date being April 8. Nests constructed early in the season usually have been placed in clumps of slough sedge (*Carex obnupta*) and Oregon sedge (*Carex oregonensis*). Naturally, these nests have been placed not more than a foot or two above the water surface. However, the majority of the nests I have found have been located in dense clumps of spirea (*Spirea douglasii*) bushes that have a growth of sedges around the base of the clumps. The nests in these shrubs varied from two to five feet in height above the water surface.

Nests containing eggs have been found as early as April 24, and as late as May 22, but the bulk of nesting occurred in early May. The greatest number of eggs I have found in any nest was seven. Young birds are exceedingly common in nesting areas from late May throughout June.—FRED G. EVENDEN, JR., *River Basin Survey, U. S. Fish and Wildlife Service, Sacramento, California.*

Nesting of the Mourning Dove Near Tacoma, Washington.—On June 25, 1941, Dr. H. C. Nickelsen discovered the nest and eggs and later photographed (on July 11) the newly hatched young of the western mourning dove (*Zenaidura macroura marginella*) near Tacoma. This probably constitutes the first nesting record of this race in this area.

It would appear, however, that the dove is on the increase in and around Tacoma. My notes go back to 1938 and with the exception of three war years show doves arriving about June 15 and staying until about September 1.

It was naturally with considerable interest that a total of 16 doves was observed in the dry area overlooking the narrows west of Tacoma during July of 1947. In that year Robert Alexander and I flushed a female dove from her nest on the evening of July 9. There was one egg which had apparently been laid that day, because 24 hours later it alone occupied the nest. On the next evening (July 11) we returned to find the completed set of two eggs.

Dr. Nickelsen's nest, like ours, was very sparse, and composed of dry grass. Both nests, also, were on the ground. Our nest of 1947 was on a small raised prominence made by the root system of a fallen tree. The nest was partially hidden by dry ferns.

During the summer of 1948 I visited the area repeatedly but found no nesting doves; eleven birds were observed on one occasion. This summer the birds are back and at this writing a flock of five has already been seen (July 13).

As mentioned before, I believe this race is becoming more common in western Washington in summer. On September 3, 1947, I observed one bird in western Jefferson County and Mr. E. A. Kitchin of Port Angeles remarked to me recently that one stayed in his garden for several weeks during the summer of 1943.—GORDON D. ALCORN, *College of Puget Sound, Tacoma, Washington.*

Trumpeter Swans at Tahsis, Vancouver Island.—Records of trumpeter swans (*Cygnus buccinator*) are so rare the following notes may be of interest.

A small flock arrived at Tahsis during the last week of November, 1948, and remained in the vicinity until March 7, 1949. The greatest number seen at one time was 23—13 adults and 10 cygnets—on January 16, 1949. This is the third year trumpeters have wintered at Tahsis.

The town of Tahsis is located at the mouth of Tahsis (Tasis) River, at the northern end of Tahsis Canal, on the west coast of Vancouver Island. The Perry River empties into the canal, on the eastern side, one mile from the town. The delta of the Perry River is grassy and sandy, containing several small wooded sections. At low tide, mud flats extend for several hundred yards from the river's outlet. The entire area is surrounded by mountains and trees, mainly conifers. The grassy delta of the Tahsis River is smaller, and was less frequently visited by the swans, which alternated between the two river deltas.

The birds were seen at least twice weekly during the time they were in the vicinity. It is interesting to note that they were usually seen in three small flocks, except when they were disturbed. Then they would converge in one group.

The swans left the area earlier than usual in 1949, possibly due to the illegal killing of one adult and the wounding of a young bird.—GEORGE J. MITCHELL, *University of British Columbia, Vancouver.*

Poultry Crop Worm and its Connection with Wild Birds.—In order to ascertain what hosts may be carriers of the crop worm (*Capillaria contorta*), which is a serious parasite in some domestic turkey flocks, it is desired to examine organs from various wild birds, particularly in Western Washington. Collectors who have the opportunity are invited to send the entire esophagus and crops of any bird that they deem likely to contact turkey flocks. Preservation by freezing, or in 10 per cent formalin, will be satisfactory. Entire specimens will also be satisfactory. This parasite has been reported from gulls, wild ducks, hawks, grouse, quail, pheasants, crows, and other species.—A. C. JERSTAD, *Associate Veterinarian, Western Washington Experiment Station, Puyallup, Washington.*

COMMENTS AND NEWS

On January 14, 1950, the Pacific Northwest Bird and Mammal Society will celebrate the 30th anniversary of its founding. It is appropriate that this event, and the men responsible, be given some consideration in the pages of *The Murrelet*.

Following a growing feeling that "the ornithologists of the Northwest should organize for the mutual interest and betterment of the avocation" (*Murrelet* 1 (1): 2), C. J. Albrecht, D. E. Brown, Dr. Clinton T. Cooke, Prof. Trevor Kincaid, S. F. Rathbun, Frank R. Renick, Stanton Warburton, Jr., and Prof. A. M. Winslow met at the State Museum at the University of Washington on November 12, 1919, at the invitation of Prof. F. S. Hall, then Director of the Museum, to discuss the feasibility of forming such an organization. The time was propitious. The U.S. Biological Survey was active in the Northwest. A reconnaissance of the fauna of Mount Rainier National Park had been made during that summer, and one was planned for the area lying along the British Columbia-Washington boundary for the summer of 1920. Plans were already under way for a meeting of the Pacific Division of the American Association for the Advancement of Science on the University of Washington campus in June. The presence of professional workers in the area, together with the impending regional meeting of the A.A.A.S., no doubt stimulated the local workers to band themselves together in a formal organization.

At the first meeting Mr. Hall was elected acting president, and another meeting was called on November 24 to discuss the idea further. Eleven men were present at the second meeting. Since a number of this original group had a dual interest in birds and mammals, and since the number of serious workers in the area were few, it was decided to combine the two interests in one organization. A committee was appointed to draft a constitution. At the next meeting on January 7, 1920, the constitution was adopted, and permanent officers were elected, namely: F. S. Hall, President; J. Hooper Bowles, Vice President, and Stanton Warburton, Jr., Secretary-Treasurer. In addition to Albrecht, Brown, Cooke, Hall, Rathbun, Warburton, and Winslow of the original group, there were present J. Hooper Bowles, Thomas D. Burleigh, Arthur S. Einarsen, E. A. Kitchin, A. D. McGrew, and E. B. Webster.

In May, 1920, the first number of *The Murrelet* made its appearance, mimeographed by a hand-cranked machine from old-style wax stencils. It was intended "primarily as a means of communication between the officers and its members of the various activities undertaken by the Club in the field of ornithology and mammalogy." It contained an "historical résumé" of the formation of the Club, notes from the field, the constitution and by-laws, and a membership list of 43 names. Volume I, Number 2 was issued in September of that year. In January, 1921, Vol. II, No. 1, appeared, and *The Murrelet* settled down to incubating three times a year. Better methods of mimeographing were also obtained. The first ten volumes in mimeographed form (1920-1929) are now collectors' items. From volumes one through five, each number carried its own pagination, which has imposed a problem when citing references in bibliographies.

The Murrelet grew with the Club and gradually the notes and longer articles assumed a more scholarly tone. At the same time, the early issues are referred to frequently, for those were the days when men spent much time in the field, and recorded their findings.

The early numbers also carried appeals to the members to "round up" for membership persons known to have a serious interest in ornithology and mammalogy. A serious effort was made to enroll every eligible man (membership in the early days excluded women), and the charter membership list was kept open for a while. In spite of this, many valued members were not enrolled until after the charter lists were closed. For all practical purposes they should be considered as charter members, for they had much to do with shaping the early growth of the Society.—MARTHA R. FLAHAUT.

* * *

Stanley G. Jewett retired from active duty in the U.S. Fish and Wildlife Service on November 30, 1949, after nearly 40 years service with that branch of the government and its predecessor, The Biological Survey. He became a charter member of the Pacific Northwest Bird and Mammal Society in 1920, president in 1943, and now is vice president for Oregon.

Mr. Jewett was appointed Field Assistant in the Biological Survey in April, 1910, and was furloughed in August to do field work for John E. Thayer in Idaho, and in South America for the Field Museum (now the Chicago Museum). Upon his return in 1911 he was alternately on the rolls of the Biological Survey and the Oregon Game Commission, engaged in the study of distribution and economic status of wild birds and mammals in Idaho, Wyoming, North Dakota, and Oregon. The work in Oregon was a cooperative project between the Oregon State Game Commission and the Biological Survey, the results of which were published in *The Mammals and Life Zones of Oregon*, by Vernon Bailey. He has seen continuous service with the Biological Survey and the Fish and Wildlife Service since June, 1916. In 1935 Mr. Jewett undertook the development of the Malheur Wildlife Refuge, and was its first superintendent. He became in turn Biologist in the Refuge Division (1937-41), Biologist of the Pacific Flyway (1941-48), and Wildlife Research Biologist (1948-49). His work took him the length and breadth of the Pacific coast, where he became perhaps the most widely known ornithologist.

He is not retiring to obscurity, however. He has a big job ahead of him overseeing the production of *The Birds of the State of Washington*, of which he is senior author. This manuscript has been accepted for publication by the University of Washington Press, and will be comparable to *The Birds of Oregon*, of which Mr. Jewett was junior author, with Ira N. Gabrielson.

"Once a biologist, always a biologist" seems to be the pattern, and Stanley Jewett, Sr., is no exception. There are many problems tantalizing him. Now he hopes to have the time to investigate them.

* * *

Webster H. Ransom retired from active duty in the U.S. Fish and Wildlife Service on September 30, 1948, and returned to Seattle, Washington, where he owns a home. Mr. Ransom joined the Pacific Northwest Bird and Mammal Society soon after its formation, and was first vice president in 1944.

After he received the degree of Master of Science in Forestry at the University of Michigan in 1910, he joined the U.S. Forest Service and was stationed in Montana, where he rose to the rank of Forest Examiner. In 1917 he was appointed Inspector of Interstate Commerce in Game in the old Biological Survey, with headquarters in Spokane, Washington. He remained there for about 20 years, successively holding the titles of U.S. Game Warden, Game Protector, and Game Management Agent. In 1937 he was transferred to Portland, Oregon, and, in the spring of the following year, to Seattle. There he remained until 1945, when he was promoted again, this time to the position of Regional Supervisor of Law Enforcement for the Fish and Wildlife Service, with six states under his jurisdiction. This meant returning to Portland. In April of 1948 he was transferred from the section of Game Management to that of Wildlife Research, with the title of Biologist. Being essentially an out-of-doors man, this was a well deserved respite from exacting office duties. It was also one for which he was well fitted. His last active duty took him into the immense territory lying between the Cascade and Rocky mountains in British Columbia, as far north as Prince George, for waterfowl nesting studies. Now he has an approved bird banding station on the shore of Green Lake in Seattle, where he spends many happy hours observing and banding migratory and wintering waterfowl, as well as small land birds. The writing he had planned has been neglected for the time being.

* * *

Ira N. Gabrielson, former chief of the U. S. Fish and Wildlife Service, was awarded the Audubon Medal for "distinguished service in conserving the nation's natural resources." The presentation was a highlight of the recent annual dinner of the National Audubon Society, according to *Audubon News Letter*, No. 1 (December, 1949). Only previous award of the medal was to H. H. Bennett, chief of the U.S. Soil Conservation Service, in 1947. Dr. Gabrielson is now president of the Wildlife Management Institute in Washington, D.C. He has been a member of the Pacific Northwest Bird and Mammal Society since 1921, when he resided in Oregon. The federal wildlife refuge system was developed under his guidance. Ludlow Griscom, chairman of the National Audubon Society's board of directors, in making the presentation, paid tribute to this refuge system, as well as to the program of the Audubon Society, for saving from extirpation nearly 100 species of birds.

* * *

Leo K. Couch, charter member of the Society, and long-time Secretary in the early days, has returned to the Pacific Northwest. He has been away from the Pacific scene since 1935. His last assignment was as Assistant Chief of the Branch of Wildlife Research of the U.S. Fish and Wildlife Service. He planned a program of biological research covering, roughly, the Pacific Flyway, and liked his plans so well he asked for the assignment. His headquarters will be at Portland, Oregon, but he will be literally "up in the air" much of the time, for the plans call for extensive mapping of bird populations by airplane. Welcome home, Leo Couch.

ADDITIONS TO SOCIETY LIBRARY

EINARSEN, ARTHUR S. 1948. *The Pronghorn Antelope and Its Management.* (Design and drawings by Shirley Briggs.) Washington, D.C. The Wildlife Management Institute. xvi + 238 pp. 2 col. illus., 96 photos., 3 maps, 18 tables. Cloth. $4.00.

When Art Einarsen dropped in for a meeting of the Society on November 5, he modestly handed me a copy of his *opus* to be added to the Society's permanent library. I suggested that it should be reviewed. "Don't review it unless you *read it* and find it worth while," he said. I did just that. Seldom have I seen a more attractively produced, nonfiction book. From the attractive desert-tan cover, and the charming "woodcut" vignettes, to the end sheets, with their drawing of antelope on the Missouri in 1833 by Carl Bodmer, artist with Maximillian's expedition, the book itself will please the most fastidious bibliophile.

In my long acquaintance, never did I suspect Art of being a disciple of aesthetics. As one reads, he can easily see how a hard-boiled field man, a biologist of the U. S. Fish and Wildlife Service and leader of the Oregon Cooperative Wildlife Research Unit, could become poetic over "these phantoms of the grassland and sagebrush." "Antelope kids are among the most fascinating 'children of the wild.'" (Footnote: "Scientists favor 'calf' as a proper designation for young pronghorn. In formal writing, I am content to accept this nicety of discrimination but not when referring to their play. Then they are only 'kids.' This word connotes boundless energy, spritelike mannerisms and those endearing charms that tempt you to gather them in your arms. Hard of heart is he who sees the week-old pronghorn as a mere 'calf'; and obviously he has not known them in the wild.")

When I look at photographs of pronghorns, they always seem to me to display expressions of worry. This has, no doubt, a practical explanation in the modeling of the head, the large, widely placed eyes, and the set of the jaw. It is easier, however, to imagine the slender margin between extinction and safety facing these animals to explain the anxious look.

"Only in the last two decades have the pronghorn herds in the western United States been studied with a definite management purpose." With all its easy reading, this is a thoroughly practical book, detailed and well documented. At the same time, the arm-chair traveler can share the excitement, discomfort, and satisfaction of the men who conducted the long, often tedious study necessary for the completion of this report. The author has shown that by sound management techniques the pronghorn can reoccupy much of its former range and reach an abundance whereby it may be hunted as a "trophy" animal, at least.—MARTHA R. FLAHAUT.

HUDSON, GEORGE E., and CHARLES F. YOCUM, 1949. *Tentative Checklist of the Birds of Southeastern Washington.* Pullman, Washington. The State College of Washington, Department of Zoology. Mimeographed, 8½ x 11 inches. 35 pp.

The area treated includes all of southeastern Washington, north to Spokane, west to the Grand Coulee and south to Pasco and Walla Walla. Records were obtained from the field notes of the authors, staff members and students of the State College, members of the Washington State Department of Game, specimens in the collection of the Charles R. Conner Museum of the State College, as well as from the literature. Observations from Grant, Franklin, and Walla Walla counties are avowedly fragmentary.

The issuance of this checklist in its present form was decided upon so that it could be used for classroom purposes, and in order that any irregularities could be corrected before its publication in printed form. The authors solicit suggestions, corrections, and criticisms from any source. It is a fine product of mimeographing, double-spaced for additions and corrections. It fills a long-felt need of students of game management and other workers in the region.

Subspecific names are based mainly on those of the forthcoming *Birds of the State of Washington* by Stanley G. Jewett, *et al.* In view of the rather fluid condition of the changes being made in the A.O.U. Checklist, and the probable length of time before it and the *Birds of Washington* appear, one questions the advisability of using some of the names in a provisional, ephemeral work such as this. One would assume that by the time it is printed the nomenclature would be more or less set, and the accepted names could be incorporated.—MARTHA R. FLAHAUT.

COMMENTS AND NEWS

An interesting booklet entitled *Stranded Whales and Tortoises* has recently been published by the British Museum. In 50 pages and 42 illustrations it is a "guide for the identification and reporting of stranded whales, dolphins, porpoises, and turtles on the British coasts." Many of the species occur on the northwest coast of North America. Readers of *The Murrelet* may obtain copies prepaid by sending 50¢ to The Fish and Wildlife Service, Room 1, 2725 Montlake Blvd., Seattle 2, Washington.—VICTOR B. SCHEFFER.

Those who heard Dr. Alexander V. Arlton demonstrate his remarkable "slide rule" for measuring and imitating the calls of various birds will be interested to know that his book *Songs and Other Sounds of Birds* is ready for distribution. There are over 200 lithoprinted, double-column pages, 8½ by 11 inches in size. The book is a cluminations of years of research during Dr. Arlton's long career of teaching biology. "Over 630 birds are discussed, and there are pages and pages of bird music."

Dr. Arlton has built his book on the principle that many identifications of birds are made by means of their songs or calls alone. Among other things he discusses the vocal organs of birds, the ability to sing, part singing, rhymthic singing, singing with vibrato, the use of syllables to indicate rhythm, use of the musical staff, and imitating bird songs. He has also described his whistle for obtaining correct pitch, recording, and imitating bird songs.

A limited number of copies of this distinctly different book have been published. Copies may be obtained by ordering directly from the author, Lock Box 150, Parkland, Washington. The price is $5.00 per copy.—M. R. F.

FORECAST OF MEETINGS

The Executive Board has approved the following dates for meetings in 1950:

January 14—Seattle, Washington. Annual Meeting (Place to be announced later).

February 18—Oregon Regional Meeting, at Reed College, Portland, Oregon.

March 25—Seattle, Washington, at the Washington State Game Department Building, 509 Fairview Avenue North.

April 29-30—Victoria, British Columbia, at the Provincial Museum.

May 27—Tacoma, Washington (Place to be announced later).

SOCIETY MEETINGS

OCTOBER, 1949.—A regional meeting was held at the University of Idaho, Moscow, Idaho, on October 1. The afternoon session was called to order at 1:50 p.m., by Dr. Russel T. Congdon, Vice President for the Inland Region. Mrs. Flauhaut was appointed Acting Secretary.

President Carl welcomed the members and guests and announced tentative dates for future meetings, subject to the approval of the Executive Board.

The afternoon program consisted of the following talks: "Wildlife Research at the University of Idaho," by Dr. Paul Dalke, University of Idaho; "Observations on Local Movements of Water Ouzels," by Dr. Donald S. Farner, State College of Washington; "Status of the Grebe Family in Washington," by Dr. Charles F. Yocom, State College of Washington; "Some Problems of Relationship in the *Aquilidae*," by Malcolm T. Jollie, University of Idaho; "Pronghorn Antelope on the Wichita Mountain Wildlife Refuge," by Helmut K. Buechner, State College of Washington.

An intermission was called at 3:30 p.m., during which members and guests examined the collection of birds and mammals being built up by the Department of Biological Sciences at the University of Idaho.

Upon resumption of the meeting at 4:30 p.m., Earl J. Larrison spoke on "The Ecology of the Mammals of Mount Pilchuck, Washington."

Warren A. Hall of the State College of Washington had been scheduled to talk on "Road-killed Birds in the Palouse Area," but was unable to be present.

Many members and guests met at Johnnie's Restaurant for dinner at 6:30 p.m.

The meeting again convened in Room 110 Science Building, where President Carl showed a motion picture film of a recent expedition to Triangle Island, off the northern coast of Vancouver Island, including mainly water birds nesting there.

Dr. Russell T. Congdon showed a motion picture film of several years' study of hawks in the Grand Coulee, Washington, and a film of stilts, avocets, and other water birds on the Malheur Wildlife Refuge, Oregon. On special request, Dr. Congdon also showed a film on loons and the Caribou Parkland of British Columbia.—MARTHA R. FLAHAUT, *Acting Secretary.*

NOVEMBER, 1949.—A regular meeting was held in Room 56, Johnson Hall, University of Washington, Seattle, November 5, 1949, with President G. Clifford Carl presiding.

The following persons were elected to membership: Henry Ward Beecher, Jr., Menlo Park, California; Dr. H. Stanley Bennett, Department of Anatomy, University of Washington, Seattle; C. Andresen Hubbard, Tigard, Oregon (re-instated); Mrs. Herbert C. Judd, and The Reverend Thomas McCamant, Portland, Oregon; L. R. Mewaldt, State College of Washington, Pullman; and Marvin Reed, Bremerton, Washington.

President Carl announced that the advisory ballots on proposed changes in the annual meeting date and the name of the Society were still coming in, and would be analyzed by a committee which would report at the next meeting.

The program of the evening consisted of a report by Dr. Ian McTaggart Cowan on "Wildlife in Protected Areas," dealing with biological investigations in the National Park areas of British Columbia, and illustrated by colored slides.

Preston P. Macy, Superintendent of the Olympic National Park, commented on the condition of the wildlife in that area.—MARTHA R. FLAHAUT, *Acting Secretary.*

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Founded January 7, 1920

OFFICERS FOR THE CURRENT YEAR, 1949

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MURRAY L. JOHNSON, *First Vice President*

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